National Institute of Environmental Health Sciences

Allergens and thunderstorm asthma

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Year: 2009
Journal: Current Allergy and Asthma Reports. 9 (5): 384-390

Abstract:

Thunderstorm-related asthma is increasingly recognized in many parts of the world. This review focuses on important advances in the understanding of the mechanism of the role of allergens, in particular fungal spores such as Alternaria, in asthma epidemics associated with thunderstorms. From our observations, we have proposed that the prerequisites for this phenomenon are as follows: 1) a sensitized, atopic, asthmatic individual; 2) prior airway hyperresponsiveness before a sudden, large allergen exposure; 3) a large-scale thunderstorm with cold outflow occurring at a time and location during an allergen season in which large numbers of asthmatics are outdoors; and 4) sudden release of large amounts of respirable allergenic fragments, particularly fungal spores such as Alternaria. © Current Medicine Group, LLC 2009.

Source: http://dx.doi.org/10.1007/s11882-009-0056-8

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Extreme Weather Event, Precipitation

Air Pollution: Allergens

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Global or Unspecified

Health Impact:

specification of health effect or disease related to climate change exposure

Respiratory Effect

Respiratory Effect: Asthma

Population of Concern: A focus of content

Population of Concern: ☑

populations at particular risk or vulnerability to climate change impacts

Children

Other Vulnerable Population: Sensitized, atopic, asthmatic individual

Resource Type: ☑

format or standard characteristic of resource

Review

Timescale: ☑

time period studied

Time Scale Unspecified